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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,301	09/21/2000	Robert J. Martin	017750-506	8409

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EXAMINER

MORAN, TIMOTHY J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/666,301

Applicant(s)

MARTIN, ROBERT J.

Examiner

Timothy J. Moran

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Response to Arguments

In view of the appeal brief filed on July 3, 2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. A new final rejection follows.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on July 3, 2003 was filed after the mailing date of the Final Rejection on June 14, 2002. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. An initialed copy of the PTO-1449 form is attached.

Claim Rejections - 35 USC § 112

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7, 9, and 10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 7, 9, and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 7 and 9, the original specification does not teach a method of switching a charge well based on a rate at which moving charges fill a charge well, specifically a method of determining said rate, and a method of determining the proper time for switching.

Regarding claim 10, the original specification does not teach a method of varying an integration capacitance based on a rate at which moving charges fill a charge well, specifically a method of determining said rate, and a method of determining the proper capacitance variation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joseph, U. S. Patent No. 3,624,501. Regarding claim 7, Joseph describes a circuit (figure 1) comprising a first charge well (capacitor C1) for receiving moving charges from a photodetector (col. 1, lines 33-39), a second charge well (capacitor C2), and means (PUSH BUTTON SWITCH SW) for selectively switching said second charge well in parallel with said first charge well to vary the integration time of said moving charges (col. 1, lines 54-62 and col. 2, lines 3-5). Here the term "integration time" is understood to be equivalent to the term "time constant." Also, here the category of the term "charge well" is understood to include capacitors. Joseph teaches the charges are from a nuclear radiation detector, which can comprise a photodetector, since nuclear radiation commonly includes X-ray photons. Joseph also teaches that the charge well switching is useful in changing of a time constant of a detector rate meter (abstract), but does not explicitly teach the selective switching of a charge well based on a rate of moving charges. However, the subtleties of capacitor saturation art are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to switch a charge well in the invention of Joseph based on a rate at which moving charges for the advantage of changing the time constant of the device.

Regarding claim 9, Joseph teaches the use of capacitors (see figure).

Regarding claim 10, Joseph describes a method comprising supplying moving charges from a photodetector (col. 1, lines 33-39) to an integration capacitance (capacitor C1), and selectively switching (using PUSH BUTTON SWITCH SW) the integration capacitance to vary the integration time of said moving charges (col. 1, lines 54-62 and col. 2, lines 3-5). Here the term "integration time" is understood to be equivalent to the term "time constant." Also, here the category of the term "charge well" is understood to include capacitors. Joseph also teaches that the charge well switching is useful in changing of a time constant of a detector rate meter (abstract), but does not explicitly teach the selective switching of a charge well based on a rate of moving charges. However, the subtleties of capacitor saturation art are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to switch a charge well in the invention of Joseph based on a rate at which moving charges for the advantage of changing the time constant of the device.

Response to Arguments

In response to appellant's argument (page 4, last paragraph and page 5, first paragraph) that the originally filed application teaches switching "based on a rate at which the moving charges fill the first charge well," it is noted that a method of detecting a rate of moving charges is not described in the originally filed application. While it is acknowledged that the specification describes the process of target electrons filling the charge well, this is considered to be different from teaching that the filling rate of the electrons is to be detected and used to determine switching actions. Therefore it is considered that the present claims are not enabled under 35 U.S.C 112.

In response to appellant's argument (page 5, second paragraph) that a person of ordinary skill in the art would have been able to make and use the claimed invention, it is acknowledged that the specification teaches the changing of the charge well capacitance depending on whether the detector is detecting "faint" targets or "hot" targets (see original specification, page 9, lines 19-28). However, it is considered that the specification does not provide sufficient guidance concerning the method of determining when the capacitance changing actions should take place. Since the art of varying capacitances is a large one, it is considered that undue experimentation would be required for one of ordinary skill in the art, in possession of the original specification, to arrive at the specific decision method of the present claims (detecting a charge well filling rate). See MPEP 2164.01. Therefore it is considered that the present claims are not enabled under 35 U.S.C. 112.

In response to applicant's argument (Exhibit A, page 2, second paragraph) that US Patents 5,762,045 and 4,997,280 teach the calculation of a first derivative of a sensor signal, it is noted that these signals are not used to control capacitance values. Therefore it is considered that the present claims are not enabled under 35 U.S.C. 112.

In response to applicant's argument (Exhibit A, page 2, second paragraph) that US Patent 6,441,848 and the Duncan reference teach the monitoring of a rate of charge collection, it is noted that they teach that the second derivative, rather than the first derivative, is used to determine device operation changes (col. 9, lines 1-23, and abstract, respectively). Therefore it is considered that the present claims are not enabled under 35 U.S.C. 112.

In response to applicant's argument (Exhibit A, page 2, third paragraph) that the submitted documents show that methods of detecting charge flow rates were known in the art of radiation detectors, it is noted that the original specification did not mention or suggest that references of this type were relevant to the implementation of the applicant's invention. Therefore it is considered that the present claims are not enabled under 35 U.S.C. 112.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Moran whose telephone number is 703-305-0849. The examiner can normally be reached on M-F 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

T.M.

TM
August 27, 2003


DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800